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ABSTRACT

This paper reviews research findings which are contrary to or inconsistent with the view of early experience as a critical and often irreversible determinant of development. It is suggested that the increasing awareness of the value of a life span perspective is leading to major reevaluation of the role of early experience in development. The disproportionate emphasis on early experience is seen as resulting from: (1) an overreliance on linear, cummulative learning based models of development, which incorrectly equate learning with development; (2) a failure to separate historically and culturally rooted determinants of behavior and development from maturational factors and to distinguish species-specific from culture-specific determinants; (3) a failure to consider that the interactional processes regulating one developmental dimension are not necessarily the same as for another dimension; and (4) a view of the life span that sees "terminal stat[illegible]t age 18. It is concluded that a stage-based life-span model provides a more appropriate base for determining optimum intervention periods, for separating cohort and environmental determinants from maturational factors, for supporting a renewal of interest in development throughout the lifecycle, and for stressing the importance of developmental predictors having external as well as internal validity. (Author/JMB)

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Early Experience: A Life Span Perspective

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Developmentalists have come to view early experience as a critical and often irreversible determinant of development. In his recent book The First Three Years of Life, Burton White tells parents that if they haven't provided the proper environment for their child by age three, they may have so handicapped their child that subsequent intervention will be virtually useless. Specifically, he warns parents that "to begin to look at a childs educational development when he is two years of age is already much too late" p.4.

In his new book, Sidney Bijous predicts that future educators will view "preschool as the most important educational experience in a person's life." (p. 164).

Early Childhood intervention advocates such as Palmer (1972), Hunt (1964), and Gray and Klaus (1968), have warned legislators, preschool educators, and early childhood researchers that the disadvantaged child's head start may in effect be his last chance. Indeed, if one judges the importance given to the early years by the number of papers presented at this and the past meeting of SRCD, one must conclude that events affecting development during the early years are so disproportionately influencial that subsequent developmental events to use the words of John Bowlby (1969 p. 144) fpale into insignificance in comparison ~~form~~.

A review of the literature, however, finds the evidence less convincing than the rhetoric. Research on animals, institutionalized and/or disadvantaged children, and children experiencing physiological insult have provided the empirical basis for the early experience proponents. The work of Denenberg, Caldwell, Goldfarb and Pasamanick & Knowblock are appropriate examples.

Denenberg (1969) reports that rats handled for 20 days in infancy when tested as 120 day old adults prove to be more active on the open field test, and as determined by corticosteroid levels, less emotional than rats left undisturbed during the same 20 day infancy period.

Goldfarbs (1955) now classic review of the clinical and research literature showed that when compared to home-reared children, children institutionlized during the first two to three years of life showed detrements in such diverse areas as Wechsler IQ, Vineland Social Maturity Quotient, onset of speech, popularity, school achievement, apathy, and resistance to frustration.

Caldwell (1967) supports early childhood intervention programs by arguing that the disadvantage child's home lacks those supports which are necessary for priming a child's cognitive, social and emotional development. She argues further that the first three

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years of life are a critical period for the formation of these abilitites. Presumably, if intervention is not begun within the critical period subsequent efforts will meet with limited success.

Finally, Pasamanick & Knowbloch have on several occassions reported significant correlation of behavior, hearing and speech disorders with complications in pregnancy, prematurity, and neonatal abnormalities.

The writings of Bloom (1964), Gagne (1961), Hebb (1949) Hunt (1961, 1964) and Scott (1969) have each provided the theoritical base for the early experience proponents. Scott, for example, hypothesizes that early experience is a disproportionaly powerful influence in development because 1) many important organizing processes proceed at their maximum rate early in life and 2) many organizational processes are self limiting and the nature of these limits is determined under the influence of early experience.

Although the early experience proponents have amassed a considerable array of research and theory to support their views, there nevertheless remains equally impressive evidence and theory that is either contrary to or inconsistent with the early experience views. In a review of the effects of early experience on later behavior in rats, Elenmeyer-Kimbling notes that "out of a total of 40 studies testing the permanence of early treatment effects there were 37 in which at least one of the tested strains fails to display a significant difference between the experimental and control conditions". Further out of a total of 162 opportunities in which to see significant effects of early treatments, in 87, the early experience does not significantly influence performance on the subsequent behavioral test. In fact, she concludes, it seems that we have a better than even chance of not finding a significant relationship between an early treatment and a subsequent measure of behavior!

Reviewing the reproductive causality literature Sameroff also fails to find consistent associations between early trauma and subsequent developmental status. He notes that the St. Louis studies on anoxia found that although anoxic infants, when compared to non-anoxic controls, did poorly on newborn measures and still showed deficits at age three, they performed almost as well as non-anoxic controls by age seven. Sameroff also fails to find a relationship between events related to pregnancy, prematurity and delivery on subsequent developmental status.

Sameroff believes that the long term significance of early experience depends upon the amount, intensity and duration of subsequent experience.Only when early experience initiates such a sequence, would one expect long term predictability. Their reference to the work of Weiner, Bierman and French

is a good example. Weiner et al followed up all 670 infants born on the island of Kauai in Hawii.

Each infant was initially scored on a four point scale for severity of perinatal complications. At twenty months and again at ten years of age, these perinatal scores were related to assessments of physical health, psychological status, SES, family stability, and mothers IQ. At twenty months, low SES infants who had suffered severe perinatal stress were found to be 4 to 5 times more impaired than high SES infants experiencing the same initial trauma. By the ten year evaluation neither SES group showed a correlation between 10 year status and nature and degree of perinatal status.

Sameroff and Chandler conclude that perinatal complications are consistantly related to later physical and psychological development only when combined with and supported by persistently poor environmental circumstances. The data further suggest that risk factors operative during the perinatal period tend to disappear during childhood as more potent familial and social factors exert their influence.

Evidence from other longitudinal studies has been equally equivocal. The Fels (Kagan & MOss, 1962) study found virtually no correlation between adult behaviors with child behaviors during the 0-3 or 3-6 age periods. Significant predictors of adult behaviors did not appear until the 6-10 age period and then were not only low in magnitude but only present if the behavior was consistant with culturally santioned sex role standards. For Kagan & Moss, it was the years of 6-10 and not the preschool and infancy years that were the critical periods. They conclude that the first four years of contact with the school and peer environments, crystallize behavioral tendencies that are maintained through young adulthood.

MacFarlane (1963, 1964) summerizing results from the Berkeley longitudinal studies noted that only one third of the adult status predictions derived from early childhood indicators proved accurate. Approximately 50% turned out more stable and effective ~~[illegible]~~ as adults than predicted, 20% less so.

In discussing the 20% that did less well than predicted, she observed that "here too the theoretical expectations were rudely jarred by the adult states of a number of our subjects who early had had easy and confident-inducing lives. As children and adolescents they were free of severe strain, showed high abilities and talents, excelled at academic work and were the image of success. One now sees among them at age thirty a high proportion of brittle, discontented, and puzzled adults whose high potentialities have not been acutalized at least of now". Elders (1974) description of his more deprived middle class sample growing up during the depression provides a similar pattern. Individuals from the deprived middle class sample were found more likely to be functioning well as adults than the non deprived individuals.

How then do we best view the influence of early experience. We believe the dominant views of theorists such as Gagne, Bloom, Hunt need revision. First, we must end our overreliance on linear, cumulative, quantiative models of development that incorrectly equate learning with development. Development is not governed soley by contingencies of reinforcement nor are its transition rules necessarily understood, as Baer (1970) would have us believe, by

being able to produce in the four year old responses more typical of the seven year old. We are much more in agreement with Lehrman (1953) that development occurs through the resolution of the interaction of existing structures and patterns within the organism with its internal environment the interaction of that organism with its external environment.

Second, we must give greater emphasis to Anastasi's argument that the interactional processes regulating one developmental dimension are not necessarily the same as for another.

Although heredity and environment are involved in the determination of all developmental phenonmena, the manner of their interaction for height and weight are substantially different than for such developmental dimensions as achievement, attachment, and intelligence. Had Bloom been more sensitive to this perspective, he would have realized that predictions of IQ score derived from Andersons (1939) overlap hypothesis have a very diffent meaning than do those of predictions of height. To say that 50% of adult intelligence is present by age four does not have the same meaning as the parellel statement concerning height. As Elkind (1969) has noted such correlations tell us nothing about the amount or quality of knowledge at given levels. Rather, mental growth is best viewed as a qualitative affair that presupposes significant differences between the thinking of children and adolescents as well as between preschool and school-age children.

Third, we must be careful not to incorrectly label culturally and historically rooted determinants of behavior and development as inherent in the maturational growth patterns of the child. Such mislabeling has been noted from both an educational and historical perspective. McClelland for example (1973), has shown that stability of achievement and aptitude scores during the school years is more a reflection of the nature of our educational system than the nature of the children within it. Ginsburg (1972) and Looft (1973) have each made similar arguments in their respective analysis of the relations of social structures to individual development. From a historical perspective, Skolnick (1976) argues that much of the stability found in developmental research is a by produce of the increasing conformity and age-segregation that has come to be typical of our culture, Keniston makes a similar point when he criticizes those who hold "the wide spread psychological assumption that the innate threat of human development is so intense that development cannot be influence by any merely cultural or historical factor.

This mislabeling has been further compounded by an age linked view of childhood that fails to realize that growth rate differentials are not necessarily predictive of final status when the behaivor is common to all members of the species. There is no better support of this argument than the work of Kagan & Klein (1973). At one year of age, their sample of Guatemalyan Indian infants, raised by American standard in a severely deprived environment showed marked developmental retardation when compared to a same age American sample. However, an eleven year old Indian sample having an identical infnacy without deliberate intervention, showed no retardation when compared to an 11 year old American sample. They conclude that:

> These data do not indicate the impotence of early environments but rather the potency of the environment in which the organism is functioning. There is no question that early experience seriously affects kittens, monkeys and children. If the first environment does not permit the full actualization of

psychological competencies, the child will function below his ability as long as he remains in that context. But if he is transferred to an environment that presents greater variety and requires more accommodations, he seems more capable of exploiting that experience and repairing the damage wrought by the first environment than some theorists have implied (p. 960).

In explaining why we have not found similar findings with our disadvantaged populations, Kagan & Klein note that "we live in a society in which the relative retardation of a four year old severely influences his future opportunities because we have made relative retardation functionally synonymous with absolute retardation.

Fourth, we must stop perpetuating a view of the life cycle that attributes "terminal status" (Bloom 1964) to age eighteen or in some instances, even younger (White, 1975)

The increasing awareness of the value of a life span perspective is leading to a major reevaluation of the role of early experience on development. Greater attention is being given to the search for genotypic continuities in development. Greater emphasis is being given to the growth inducing nature of relative hardship and adversity. Theorists such as Elkind (1965), Kohlberg (1968) and Rohwer (1971) are arguing that the preadolescent rather than the preschool years may prove this to be the real prime time for intervention. Life span cohort methodologies are providing a powerful means to separate cultural, historical and environmental factors from maturational determinants of development. A renewal of interest in the adult year by such authors as Kimmel (1974) Neugarten & Maas & Kuypers (1974), Baltes & Schair (1965) has shown that for many developmental dimensions positive development continues far into & sometimes beyond middle age. Finally a life span perspective has focused attention on the necessity of developing predictive measures that are relevant not only to grade point average but to meaningful adult life tasks as well.

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